

UNCLASSIFIED

DEPARTMENT OF THE AIR FORCE  
SUPPORTING DATA FOR FISCAL YEARS 1998/1999  
RESEARCH, DEVELOPMENT, TEST AND EVALUATION  
DESCRIPTIVE SUMMARIES



DISTRIBUTION STATEMENT A

Approved for public release;  
Distribution Unlimited

FEBRUARY 1997

VOLUME IV

Classified by: Multiple Sources

NOT RELEASABLE TO FOREIGN NATIONALS  
THIS PAGE IS UNCLASSIFIED

FORMERLY RESTRICTED DATA  
Unauthorized disclosure subject to  
administrative and criminal sanctions.  
Handle as Restricted Data in foreign  
dissemination. Section 114.b, Atomic  
Energy Act, 1954

COPY NUMBER

34

UNCLASSIFIED

19970314 016

DTIC QUALITY INSPECTED

**PLEASE CHECK THE APPROPRIATE BLOCK BELOW:**

- ☐ \_\_\_\_\_ copies are being forwarded. Indicate whether Statement A, B, C, D, E, F, or X applies.
- ☒ **DISTRIBUTION STATEMENT A:** *Per Navy Sector*  
APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED
- ☐ **DISTRIBUTION STATEMENT B:**  
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES ONLY; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ **DISTRIBUTION STATEMENT C:**  
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ **DISTRIBUTION STATEMENT D:**  
DISTRIBUTION AUTHORIZED TO DOD AND U.S. DOD CONTRACTORS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ **DISTRIBUTION STATEMENT E:**  
DISTRIBUTION AUTHORIZED TO DOD COMPONENTS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ **DISTRIBUTION STATEMENT F:**  
FURTHER DISSEMINATION ONLY AS DIRECTED BY (Indicate Controlling DoD Office and Date) or HIGHER DOD AUTHORITY.
- ☐ **DISTRIBUTION STATEMENT X:**  
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND PRIVATE INDIVIDUALS OR ENTERPRISES ELIGIBLE TO OBTAIN EXPORT-CONTROLLED TECHNICAL DATA IN ACCORDANCE WITH DOD DIRECTIVE 5230.25, WITHHOLDING OF UNCLASSIFIED TECHNICAL DATA FROM PUBLIC DISCLOSURE, 6 Nov 1984 (Indicate date of determination). CONTROLLING DOD OFFICE IS (Indicate Controlling DoD Office).
- ☐ This document was previously forwarded to DTIC on \_\_\_\_\_ (date) and the AD number is \_\_\_\_\_.
- ☐ In accordance with the provisions of DoD instructions, the document requested is not supplied because:
- ☐ It is TOP SECRET.
- ☐ It is excepted in accordance with DoD instructions pertaining to communications and electronic intelligence.
- ☐ It is a registered publication.
- ☐ It is a contract or grant proposal, or an order.
- ☐ It will be published at a later date. (Enter approximate date, if known.)
- ☐ Other. (Give Reason.)

\_\_\_\_\_  
Print or Typed Name

\_\_\_\_\_  
Authorized Signature Date

\_\_\_\_\_  
Telephone Number

# TABLE OF CONTENTS

## SECTION I: FY1998 RDT&E FACILITY PROJECT DATA

PROGRAM ELEMENT	TITLE	PAGE NUMBER
0603319F	Airborne Laser Complex	1
0604853F	Evolved Expendable Launch Vehicles Facilities	3
0604853F	Evolved Expendable Launch Vehicles Facilities	5

## SECTION II: FY1998 COMBATING TERRORISM DATA

0604704F	Airbase Operability	7
0604708F	Civil, Fire, Environmental Shelter	7
0305128F	Security & Investigative Activities	7

## Summary Sheet

Program Element	Project Title	Location	Project No	Project Cost
0603319F	Airborne Laser Complex Upgrade	Edwards AFB, California	4269	6,845.0
0604853F	Evolved Expendable Launch Vehicles Facilities	Cape Canaveral AFS, Florida	0004	10,000.0
0604853F	Evolved Expendable Launch	Vandenberg AFB, California	0004	5,000.0

Note: There were no Facilities Exhibits included in the FY97 President's Budget submission.

1. COMPONENT AIR FORCE		FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)		2. DATE 04 JUN 1996	
3. INSTALLATION AND LOCATION EDWARDS AIR FORCE BASE, CALIFORNIA			4. PROJECT TITLE AIRBORNE LASER COMPLEX UPGRADE		
5. PROGRAM ELEMENT 6.33.19F	6. CATEGORY CODE 311-114	7. PROJECT NUMBER FSPM981305	8. PROJECT COST(\$000) 6,845.0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
AIRBORNE LASER COMPLEX UPGRADE					5,123.8
CONSTRUCT PAD PRESSURE RECOVERY SYSTEM		LS			(1,537.1)
INTERIOR SUPPORT AREA		LS			( 768.6)
UPGRADE SYSTEM INTEGRATION LAB		LS			(2,818.1)
SUPPORTING FACILITIES					748.0
CONSTRUCT FUEL FARM		LS			( 107.0)
CONSTRUCT NEUTRALIZATION SUBSYSTEMS		LS			( 641.0)
SUBTOTAL					5,871.8
CONTINGENCY (10%)					587.2
TOTAL CONTRACT COST					6,459.0
SUPERVISION, INSPECTION AND OVERHEAD (6%)					387.5
TOTAL FUNDED COST					6,845.0
10. Description of Proposed Construction: Modify existing Birk Flight Test Facility (Bldg 151 and associated areas) and install necessary R&D equipment. Modifications include constructing concrete pad for pressure recovery system, upgrade Bldg 151 for installion of a system integration laboratory, other Bldg. 151 mods, construct a laser fuel farm, and a neutralization subsystem. All work required for a complete facility.					
11. REQUIREMENT: As required. PROJECT: Modify existing Birk Flight Test Facility (BFTF) (Building 151 and associated areas) and install necessary R&D equipment to support the Program Definition Risk Reduction(PDRR)Airborne Laser (ABL) RDT&E program. REQUIREMENT: The PDRR ABL program is designed to exploit powerful technologies which have evolved over the past 20 years and integrate them into a revolutionary airborne weapon system which is lethal to boosting enemy Theater Ballistic Missiles (TBMs) at extremely long ranges. The ABL also plays a significant role in assisting the other joint tiers in the Theater Missile Defense architecture by reducing the number of targets, providing missile trajectory information to the theater point defenses, and identifying TBM launch points for counter force strikes against mobile launchers. Test facilities must be capable of supporting a test program which integrates a multi megawatt chemical oxygen iodine laser (COIL) and beam control system with a large aperture telescope into a Boeing 747 400F aircraft. Since the PDRR ABL aircraft will be a first-of-its-kind, modifications and equipment installation will be designed and modified as the program proceeds. With the facility capabilities of BFTF, building a new temporary facility for the PDRR ABL is an unnecessary expense. CURRENT SITUATION: Current BFTF facilities were designed to support wide body aircraft and can accommodate the Boeing 747 400F. Modifications,					

1. COMPONENT	FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)	2. DATE
AIR FORCE		04 JUN 1996
3. INSTALLATION AND LOCATION		
EDWARDS AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE	5. PROJECT NUMBER	
AIRBORNE LASER COMPLEX UPGRADE	FSPM981305	
<p>however, are needed to support the weapon element of the PDRR ABL. No pad exists to mount a pressure recovery system designed to simulate PDRR ABL operating altitudes. Other Building 151 facility modifications are required to accommodate the uniqueness of testing and operating a high energy laser system. As an example, minor power and HVAC upgrades may be needed to support laboratory equipment in the system integration laboratory. Not having a laser fuel farm or a neutralization subsystem, areas will be prepared to construct a fuel farm and install equipment. A neutralization pond does not exist and may be required to handle expended chemicals from laser operations.</p> <p><u>IMPACT IF NOT PROVIDED:</u> Significant costs and schedule delays will be incurred if the government cannot provide the facilities required by the integration contractor. Existing contractor facilities are not sufficient to support the PDRR ABL. The program is currently on track to demonstrate lethality against boosting Theater Ballistic Missiles in the year 2002.</p> <p><u>ADDITIONAL:</u> 10 USC 2353 authorizes the use of RDT&amp;E funds to construct facilities necessary for the performance of a contract. This construction project supports the PDRR ABL integration contractor. There is no criteria to scope for this project in Part II of Military Handbook 1190, "Facility Planning and Design Guide" and in AFH 32-1084, "Standard Facility Requirements Handbook."</p>		

FOR OFFICIAL USE ONLY

1. COMPONENT AIR FORCE	FY 1998 RDT&E FACILITY PROJECT DATA	2. DATE 4 JUN 1998
3. INSTALLATION AND LOCATION EDWARDS AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE AIRBORNE LASER COMPLEX UPGRADE- BUILDING 151		5. PROJECT NUMBER FSPM981305

The site plan shows a complex of buildings and roads. A circled area in the lower right is labeled 'SITE LOCATION'. A compass rose in the upper right indicates North. A scale bar is located at the bottom left of the plan area.

SITE LOCATION

SITE PLAN SOUTH BASE EDWARDS AFB

NORTH

DD FORM 1391C, DEC 76

PREVIOUS EDITION IS OBSOLETE IN THE USAF

U.S.G.P.O. 1991-281-437-05215

PAGE NO.

Atch 1

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

1. COMPONENT AIR FORCE	FY 1998 RDT&E FACILITY PROJECT DATA	2. DATE 4 JUN 1996
3. INSTALLATION AND LOCATION EDWARDS AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE AIRBORNE LASER COMPLEX UPGRADE- BUILDING 151		5. PROJECT NUMBER FSPM981305

The site plan shows the layout of Building 151 and its surrounding infrastructure. A shaded area on the left side of the building is labeled 'CONSTRUCTION LOCATION'. To the right of the building, there are 'BLAST DEFLECTORS' and a 'TANK'. To the left of the building, there are 'WALL TANKS' and a 'TANK (203)'. A north arrow is located at the bottom left of the plan. The title 'SITE PLAN-SOUTHBASE BUILDING 151' is centered at the bottom of the plan area.

DD FORM 1391C, DEC 76

PREVIOUS EDITION IS OBSOLETE IN THE USAF

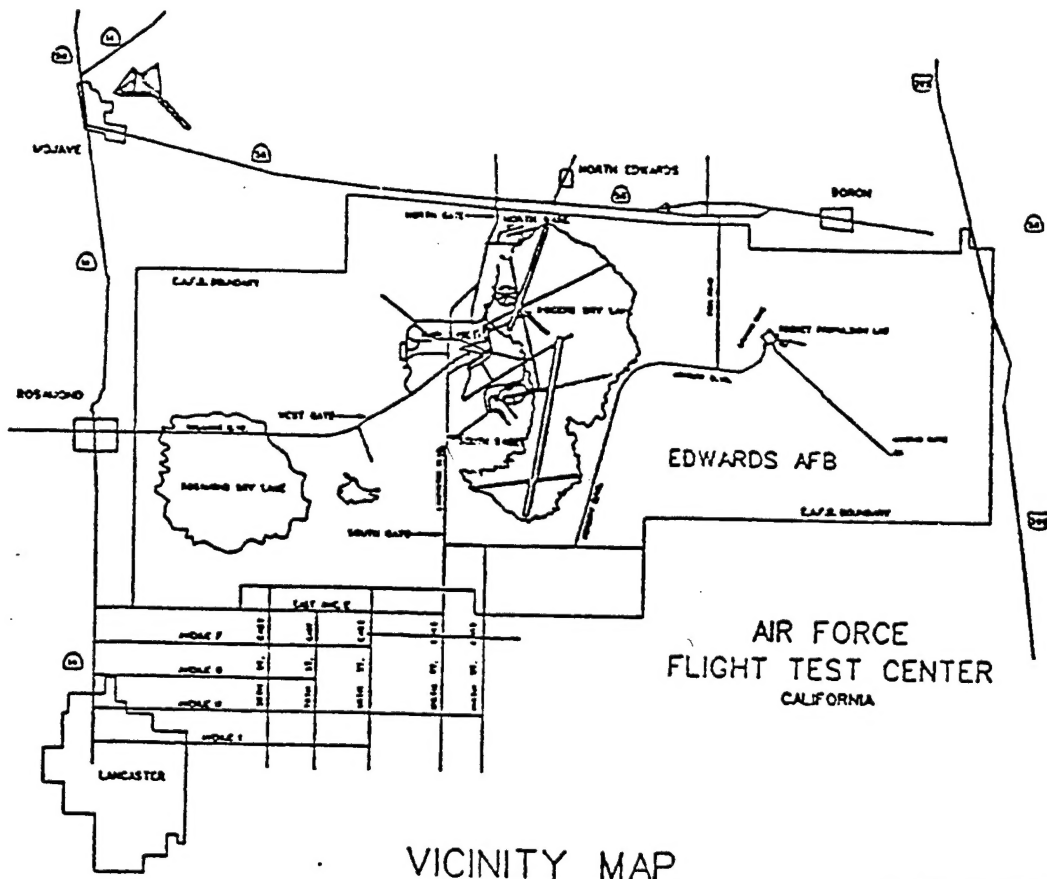
U.S.G.P.O. 1991-281-437 85215

FOR OFFICIAL USE ONLY

PAGE NO.  
Atch 1



1. COMPONENT AIR FORCE	FY 1998 RDT&E FACILITY PROJECT DATA	2. DATE 4 JUN 1996
3. INSTALLATION AND LOCATION EDWARDS AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE AIRBORNE LASER COMPLEX UPGRADE- BUILDING 151		5. PROJECT NUMBER FSPM981305



1. COMPONENT AIR FORCE		FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)		2. DATE 04 JUN 1998	
3. INSTALLATION AND LOCATION CAPE CANAVERAL AIR FORCE STATION, FLORIDA			4. PROJECT TITLE EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I		
5. PROGRAM ELEMENT 6.48.53F	6. CATEGORY CODE 312-477	7. PROJECT NUMBER DBEH983007	8. PROJECT COST(\$000) 10,000.0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I		LS			8,985.0
SUBTOTAL					8,985.0
CONTINGENCY (5%)					449.3
TOTAL CONTRACT COST					9,434.3
SUPERVISION, INSPECTION AND OVERHEAD (6%)					566.1
TOTAL FUNDED COST					10,000.0
10. Description of Proposed Construction: Construct new and modify existing space launch vehicle processing, integration, operations and control, and other ground support facilities.					
11. REQUIREMENT: As required. PROJECT: Construct new and modify existing space launch/booster integration facilities to support launch of the Evolved Expendable Launch Vehicle (EELV) system. REQUIREMENT: The EELV program requires new launch processing facilities and modifications to existing ground support facilities to support launch of medium to heavy lift expendable vehicles beginning in FY2001. Existing facilities cannot support the EELV program without major modification or complete replacement. The specific facility project details are dependent upon contractor operations concepts which will be completed through competition and final downselection in May 1998. CURRENT SITUATION: The EELV program is currently in the first stage of a three stage development program in which four contractors are in competition to become the sole provider of expendable medium to heavy spacelift for the Government. Each of the competing contractors operations concepts are unique, driving facility requirements which are cocept peculiar. The downselection of the final EELV contractor will be accomplished prior to start of Engineering and Manufacturing Development Phase, June 1998. As a result, finalized facilities construction and modification requirements cannot be deterimined until that time. Independent of the concept approved, it is clear that facilities efforts must begin in FY98 to support the initial EELV launch scheduled for FY2001. IMPACT IF NOT PROVIDED: The EELV system cannot satisfy launch					

1. COMPONENT  AIR FORCE	FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)	2. DATE <b>04 JUN 1996</b>
3. INSTALLATION AND LOCATION  CAPE CANAVERAL AIR FORCE STATION, FLORIDA		
4. PROJECT TITLE  EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I	5. PROJECT NUMBER  DBEH983007	
<p>requirements identified in the National Mission Model without these facilities construction/modifications. A facilities infrastructure capable of supporting the EELV system does not currently exist. Without construction, launch of this critical space system, vital to national security, cannot be accomplished.</p> <p><u>ADDITIONAL:</u> 10 USC 2353 authorizes the use of RDT&amp;E funds to construct facilities necessary for the performance of a contract. This project will support the selected EELV contractor in achieving compliance with the contract. There is no specific criteria/scope for this project in Part 2 of Military Handbook 1190, "Facility Planning and Design Guide" or in AFH 32-1084, "Standard Facility Requirements Handbook."</p>		

1. COMPONENT AIR FORCE		FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)		2. DATE 04 JUN 1996	
3. INSTALLATION AND LOCATION VANDENBERG AIR FORCE BASE, CALIFORNIA			4. PROJECT TITLE EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I		
5. PROGRAM ELEMENT 6.48.53F	6. CATEGORY CODE 312-477	7. PROJECT NUMBER XUMU983006	8. PROJECT COST(\$000) 5,000.0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I		LS			4,492.0
SUBTOTAL					4,492.0
CONTINGENCY (5%)					224.6
TOTAL CONTRACT COST					4,716.6
SUPERVISION, INSPECTION AND OVERHEAD (6%)					283.0
TOTAL FUNDED COST					5,000.0
10. Description of Proposed Construction: Construct new and modify existing space launch vehicle processing, integration, operations and control, and other ground support facilities.					
11. REQUIREMENT: As required. PROJECT: Construct new and modify existing space launch/booster integration facilities to support launch of the Evolved Expendable Launch Vehicle (EELV) system. REQUIREMENT: The EELV program requires new launch processing facilities and modifications to existing ground support facilities to support launch of medium to heavy lift expendable vehicles beginning in FY2001. Existing facilities cannot support the EELV program without major modification or complete replacement. The specific facility project details are dependent upon contractor operations concepts which will be completed through competition and final downselection in May 1998. CURRENT SITUATION: The EELV program is currently in the first stage of a three stage development program in which four contractors are in competition to become the sole provider of expendable medium to heavy spacelift for the Government. Each of the competing contractors operations concepts are unique, driving facility requirements which are cocept peculiar. The downselection of the final EELV contractor will be accomplished prior to start of Engineering and Manufacturing Development Phase, June 1998. As a result, finalized facilities construction and modification requirements cannot be deterimined until that time. Independent of the concept approved, it is clear that facilities efforts must begin in FY98 to support the initial EELV launch scheduled for FY2001. IMPACT IF NOT PROVIDED: The EELV system cannot satisfy launch					

1. COMPONENT	FY 1998 RDT&E FACILITY PROJECT DATA (computer generated)	2. DATE 04 JUN 1998
AIR FORCE		
3. INSTALLATION AND LOCATION  VANDENBERG AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE  EVOLVED EXPENDABLE LAUNCH VEHICLE FACILITIES, PHASE I		5. PROJECT NUMBER  XUMU983006
<p>requirements identified in the National Mission Model without these facilities construction/modifications. A facilities infrastructure capable of supporting the EELV system does not currently exist. Without construction, launch of this critical space system, vital to national security, cannot be accomplished.</p> <p><u>ADDITIONAL:</u> 10 USC 2353 authorizes the use of RDT&amp;E funds to construct facilities necessary for the performance of a contract. This project will support the selected EELV contractor in achieving compliance with the contract. There is no specific criteria/scope for this project in Part 2 of Military Handbook 1190, "Facility Planning and Design Guide" or in AFH 32-1084, "Standard Facility Requirements Handbook."</p>		

## COMBATING TERRORISM FUNDING SUMMARY

(Dollars in Millions)

Research, Development, Test and Evaluation, AF	FY 96	FY 97	FY 98	FY 99
BA 5: Engineering and Manufacturing Development	11.5	5.4	4.1	5.3
0604617F Air Base Operability	8.9	2.8	1.4	2.6
0604708F Civil, Fire, Environmental, Shelter	2.6	2.6	2.7	2.8
BA 7: Operational System Development	0.3	0.3	0.5	0.5
0305128F Security & Investigative Activities	0.3	0.3	0.5	0.5
<b>Total Research, Development, Test and Evaluation, AF</b>	<b>11.7</b>	<b>5.7</b>	<b>4.7</b>	<b>5.8</b>